

A third Contribution to the Mammalogy of Ecuador.

By

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With 3 figures.

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Consul L. SÖDERSTRÖM has recently favoured the R. Natural History Museum by presenting still another collection of Mammals. On this valuable material the following remarks are based, by which increased knowledge is won about the morphology, variation and geographical distribution of some rare mammals. Three forms have proved to be new and have thus been described and named.

Ateles fusciceps GRAY.

Two specimens, both collected at Gualea, 4000 f. alt., are of great interest, because they show probably the extremes of the variation of the colour of the head. In one (♀) (²⁴/₁₀ 1918) the upper part of the head behind the black frontal band is very pale, about the lightest shade of »chamois» (Rép. de coul. 325,1), on the occiput merging into »deep bistre» (Rép. de coul. 303,2). In the other (♂) specimen (1920) the head is very dark, so that only the anterior half of the crown behind the frontal black band has a very dark shade of »burnt umber» on the tips of the hairs. The

occiput is almost as black as the back. The difference in colour is not connected with the sex, as is proved by the specimens of the former collection, in which as well light-headed as dark-headed males were found.

Lagothrix infumata SPIX.

1 ♂ ²²/₁ 1921, »near river Napo», 2000 f. alt.; 1 ♂ ²⁶/₃ 1921, »alongside river Napo», 2500 f, alt. The former of these resembles in colour the one described in my »Second Contrib. to Mammalogy of Ecuador». ¹ The latter is somewhat paler, the general colour of the upper parts being rather similar to »yellowish buff» (Rép. de coul. 310,2) with the dark subterminal rings and the white tips to the hairs only little pronounced.

Alouatta palliata quichua THOMAS.

A complete female specimen, 3 skulls of the same sex and a male one from Gualea, 4000 f. alt.

Alouatta juara ELLIOT.

1 ♂, ²⁵/₁ 1921, »near the river Napo», 2000 f. alt. This species has been established on two specimens in Brit. Museum from »Rio Juara, Upper Amazon» 1910. It was therefore of great interest to receive this specimen from Napo. Its colour is when compared with Red Howling Monkeys from f. i. Brazil very striking by the deep maroon of the legs, head and basal portion of the tail in vivid contrast to the golden red of the back. The dimensions of the skull are smaller than those of ELLIOT's type, but such characteristics are rather variable in these monkeys, so that I do not dare to assume a smaller race at Rio Napo, if it is not proved by more material.

¹ Ark. f. Zoologi, Bd. 14, N:o 4, 1921.

Total length of skull	114,5 mm.
Occipitonasal » »	96 »
Postorbital width	42,5 »
Width of brain case	50 »
Zygomatic width	69,5 »
Condylbasal length of skull	103 »
Mesial length of nasals	22 »
Upper molar series	29 »
Lower » »	38,5 »

Should, however, these dimensions prove to be constant among the Red Howling Monkeys along Napo river it undoubtedly indicates a somewhat dwarfed race there.

Pithecia monachus E. GEOFF.

1 ♂, $13/1$ 1921, near river Napo, 2000 f. alt.; 1 female specimen bought from Indians without skull, $5/3$ 1921, at the same river, 2500 alt. Consul SÖDERSTRÖM has also added on the label, that this monkey occurs as well along Napo as along Curaray river and also below Macas.

Also in this case the skull measurements are smaller than those recorded by ELLIOT in the »Review of Primates«, although my specimen is an adult male.

Condylbasal length of skull	65 mm.
Occipitonasal » » »	76 »
Zygomatic width	53 »
Width of brain case	45 »
Upper molar series	20 » (larger than ELLIOT's)
Lower » »	23 » » » »

The fact that the last two measurements are larger than those recorded by ELLIOT appears to indicate, that he has had an old specimen with worn teeth as type for the description.

Callicebus cupreus napoleon n. subsp.

2 specimens collected near the river Napo resp. 1920 and $1/3$ 1921, alt. 2500 f. These small monkeys resemble mostly

Callicebus subrufus ELLIOT, as the following description proves. Face nearly naked only with some short sparsely set whitish hairs on the lips and in a line from the fore-head down on the nose. In addition to these there are several longer, black, probably sensory bristles above and on either side of the nose, and there is also a sparse growth of red hair from the sides of the head in direction towards the nose. A very narrow black, frontal bar and behind the same a broad white, semilunar band. Behind the latter the crown of the head and the occiput are something between »fawn» (Rép. de coul. 308,2) and »rust red» (Rép. de coul. 318,1), more red in front a little paler on the occiput, where the hair are rather suddenly lengthened. The back is duller in colour, something between fawn and burnt umber a little more fawn on the rump. The hairs are almost black at their base for more than a third, then ringed with dirty whitish and dark brown, but with fawn-coloured tips. On the lower back the paler colour becomes more fawn, and the dark rings are less apparent. Shoulders, sides of body and thighs grizzled grey by means of whitish and dark brown or blackish rings to the hairs. The flanks are a little overlaid with brownish. Sides of head, whiskers, throat and entire lower side, inside of limbs, outside of limbs up to elbow and knee, hands and feet, inclusive fingers and toes, most similar to RIDGWAY'S »burnt siena» with an inclination to »SANFORD'S brown» of the same author's »Color Standards» 1912. The base of the tail is grizzled like the flanks with more or less fawn-coloured tips. The greater part of the tail is, however, speckled greyish white and black, because the hairs have long whitish or putty-coloured tips, and below them very broad black rings, the bases being whitish, sometimes with a narrow black ring some distance above the root and separated from the broad subapical black ring by a white ring. The hairs on top of the ears are whitish, but inside the same and on their lower parts red like the whiskers etc.

With regard to the colour this animal appears to resemble *C. leucometopa* LATORRE, but the latter differs by the colour of the head, which is said to be iron grey. *C. subrufus* ELLIOT differs in having the fingers and toes »yellowish gray». *C. ornatus* GRAY is still more different and has f. i. »outer side of limbs gray» and »hands and feet yellowish gray»

etc. *C. remulus* THOMAS has also the outer sides of the limbs greyish brown, hands and feet greyish white etc. *C. toppini* THOMAS has the hairs on the proximal two thirds of the tail tipped with black. THOMAS considers the last form to be allied to *C. cupreus* SPIX, and it is rather probable, that the present form, as well as those enumerated above, are to be regarded as geographical subspecies of *C. cupreus*. From the latter the present specimens differ with regard to the colour of the top of the head, which ELLIOT, who has examined the type, describes as »gray», and »buff-yellow on fore head». The colour of the back also appears to be different. Another thing is, that THOMAS has stated that *C. cupreus* has no black hairs on the forehead, while these, as mentioned above, in the present specimens form a narrow bar on the forehead.

C. paenulatus ELLIOT appears also to belong to the same group, but, although it is similar with regard to the colour of the lower parts and legs, it seems to be very different in having a »mantle», which is said to be »tawny ochraceous uniform, extending behind shoulders; middle of back dark hair brown, grading into tawny ochraceous on the rump» (ELLIOT); and THOMAS speaks about an »elongated mantle, paler than the rest of the back» in the same species. This is, of course, entirely different from the condition of the present specimens, in which the hairs are nearly of equal size all over the upper parts, about 40 mm., or a little more, perhaps partly 45 mm. on the neck. Likewise the hairs are ringed everywhere on the body, so that there is no trace of a pale and unicoloured mantle.

The two specimens from Napo are both alike. The one, which has been described above as the type, is an old male with much worn teeth. The length of head and body is about 34,5 cm. in both specimens. The length of the tail is, when moistened, 38,5 m. The length of the hind foot is in one specimen 85 mm., in the other 90 mm.

With regard to the dimensions *C. cupreus* appears to be very different as ELLIOT, who has measured the type, says that its total length is 900 and the tail 290 mm. The proportions of *C. paenulatus* are also different from those of the present form, but in another direction as it has a long tail measuring 520 mm. with a total length of 850 mm.

The skull of the type is unfortunately somewhat broken. It has a very characteristic appearance with a rather deep depression in the frontal region behind the roof of the orbits. Total length (approximately) 59 mm.; occipitonasal length 54 mm.; width of brain case 34 mm. The teeth of the present form appear to be larger than in *C. cupreus*, because the length of the upper molar series is, although the teeth are rather much worn, about 14,5 mm., and the length of the lower molar series is 16 mm. (against resp. 14 and 15 mm. in *C. cupreus*). If thus all is taken together, the present specimens appear to be easily distinguished from other forms of *Callicebus*, although the differences are not so very great.

Aotus gularis DOLLMAN.

1 ♂ $^{31}/_1$ 1921, near river Napo, alt. 2000 f. This specimen agrees entirely with the original description except that it is a little broader across the orbits.

Mystax illigeri PUCHERAN.

1 ♂ $^9/_3$ 1921, Napo, alt. 2500 f.

Felis (Leopardus) pardalis aequatorialis MEARNS.

A young male with milk-dentition, caught at Gualea alt. 5000 f.) $^5/_6$ 1920.

Felis (Oncilla) pardinoides andina THOMAS.

1 ♂. Algonquinche, southern slopes of Mojanda, 8500 f. alt. $^6/_10$ 1919. 1 young female from the same locality $^{20}/_4$ 1919.

Pseudalopex reissii HILZH.

4 skulls viz. 1 ♂ juv. $^{20}/_2$, 1 ♀ ad. $^{21}/_{10}$ 1920 Chaupicruz, 9300 f.; 1 ♀ $^5/_8$ 1920. Zambiza; 1 ♀ juv. $^{10}/_3$ 1921, northern side of Pichincha 11000 f. The condylobasal length of the

two adult female skulls is resp. 161 and 167 mm. They are thus longer than the adult male skulls of *Pseudalopex culpaeus andina* THOMAS from the high plateau of Peru and Bolivia. The zygomatic breadth of the larger specimen is 91, the same dimension of the smaller one 88 mm., thus the same as in the male type of *P. c. andina*.

When describing the latter THOMAS pointed out, that it was »most nearly allied to the northern *Ps. c. reissii* with which it shares the normal-shaped skull, not disproportionately elongated in the muzzle». In agreement with this I should think it most suitable to consider *andina* as a subspecies of *reissii*, as both share the more »thooid» appearance of the skull in opposition to the more »alopocoid» southern forms. The smallness of the Peruvian form when compared with the Ecuadorian one would then be analogous with similar conditions found among mammals belonging to other groups as well, as will be set forth below.

Tayra barbara madeirensis LÖNNB.

1 ♂ ²³/₁ 1921, near Napo river, 2000 f. alt. This specimen has quite the typical appearance with short hair and very dark almost black general colour of the body, into which the dark umber brown of the head and neck gradually shades. There is a rather large triangular yellowish white spot on the throat. The dimensions of the skull are smaller than those of the type specimen, but as that was old male and this one is rather young with the teeth not worn, this fact may account for the difference.

Lutra emerita THOMAS or *L. parilina* THOMAS.

1 ♂ collected ²⁰/₁₀ 1920 »near Gualea, altitude 5000 f.»

In the year 1914 THOMAS described from Western Ecuador a new species of Otter, which he named *L. parilina*. This was said to be nearly related to the Otter from Merida, Venezuela, which had been named *L. emerita* by the same author 1908. The former should, however, differ from the latter by its more broadly angularly projected nose-pad, its narrower interorbital region and its slightly larger carnassial.

With regard to the shape of the nose-pad this specimen as well as another, which I referred to *L. parilina* in my »Second Contribution —», agrees with THOMAS' description. The interorbital region is in the present specimen narrow, as it ought to be in *parilina*. The carnassial is, however, much smaller than in the type of *parilina*. In the formerly recorded specimen on the other hand the carnassial is big enough, but its interorbital region is too broad. If to this is added, that an Otter from Merida in this Museum has a similar nose-pad, the interorbital region narrow as in the type of *parilina* in spite of its origin, and a carnassial of nearly the same (small) size as that of the present specimen from Gualea, the condition of these »species» from Merida and Western Ecuador appears somewhat doubtful.¹ There is apparently a rather great variation with regard to the characteristics used for distinguishing the Otters from Western Ecuador and those from Merida as the following table of measurements proves:

	♀ subad. type of <i>parilina</i> ²	♂ jun. from Gualea	♂ old. from Gualea	♂ old. from Merida	♂ type of <i>emerita</i> ²
Cyndylobasal length	102	96	—	101	110
Zygomatic breadth	64	64(?)	64	67,5	77,5
Interorbital breadth	19,7	21	18,7	19,4	22,6
Tip to tip of postorbit. processes . .	23,5	28	28,5	32,5	—
Mastoid breadth	63	61	60	62,5	71
Combined breadth of incisors	11,3	13	11,7	10,9	—
Length of <i>p</i> ⁴ on outer side	13	13	11,8	11,5	10,1
Greatest diagonal diameter of <i>m</i> ¹ . .	—	13	11	11,5	11,4

With regard to colour the two specimens from Gualea are alike, but the one received now is a little more whitish on the throat and has (no doubt an individual anomaly) the extreme tip of the tail white.

¹ When speaking about Peruvian Otters (Proc. M. S. Nat. Mus., Vol. 58, 1920, p. 225) THOMAS himself has said: »Whether the value of the character needs revision only much further material will show».

² Quoted after THOMAS.

Conepatus quitensis HUMBOLDT.

Three female skulls from resp. Zambiza, Nono, and Pichincha (11000 f.).

The condylobasal length of these skulls varies between 74 and 81 mm. The basal length of one of these female skulls is so small as 69 mm., but in the others and in some unsexed skulls of the same origin, received at an earlier opportunity, the same dimension varies between 73 and 75 mm., while the zygomatic breadth of the first is 50, and the same of the others varying between 52 and 53 mm. It will thus appear, that *C. quitensis* on an average is larger than *C. arequipae* THOMAS from Peru, with which it may be most nearly allied.

Nasua gualeae LÖNNB.

1 ♂ ¹⁰/₁₁ 1920, Gualea, 5000 f. alt. This fine specimen agrees entirely with the recently published description. It is an old male with well developed sagittal crest and the skull is a little larger than those, of which the dimensions were published in the original description. The condylobasal length is 121 mm. and other measurements in accordance with this. The existence of a well defined race of *Nasua* at Gualea is by this further corroborated in a most satisfactory manner.

Potos flavus modestus THOMAS.

A rather young specimen from the neighbourhood of Mindo ¹⁵/₇ 1920. It had been procured from Indians. The skull has still its milk-teeth. The colour is rather strongly buff, overlaid with brown on the back.

Bassaricyon gabbii medius THOMAS.

1 ♀ collected ¹/₈ 1920, near Mindo. It is considered by the Indians to be very rare, Consul SÖDERSTRÖM says. This female specimen is rather similar to the male mentioned in my »Second Contribution» — — —, but the hind feet are a little paler. A second specimen without skull from the same locality is similar.

Bassaricyon sp.? In this collection is also a skin of a *Bassaricyon* collected on the eastern side of the Andes, viz. at Baeza, on the road to Napo, alt. about 6000 f., $\frac{2}{3}$ 1920. Unfortunately there is no skull to this specimen and an exact determination is thus impossible (perhaps it might be *B. alleni*). It appears to be somewhat larger than the specimens of *B. g. medius*, and with regard to the colour it is duller, because the rings of the hairs are not buff, but dirty whitish, and the tips rather blackish. By this a more greyish brown general tone is effected, especially on the flanks. The under parts are pale buffish in the middle, otherwise more greyish white with a slight buffish tint. The hands and feet are pale greyish brown, somewhat grizzled.

Tremarctos ornatus F. Cuv. and T. o. majori THOMAS.

A male and a female skull collected on the eastern side of the Andes at Baeza on the road to Napo, 6000 f. alt. Both animals, which are fully adult, were killed the 10th of June 1920, and the skulls bought from Papallacta Indians.

The dimensions of these skulls are as follows:

	<i>T. o. majori</i>	Baeza Bears		<i>T. o. typ.</i> ♂	<i>T. ornatus</i> from Gualea ♀
		♂	♀		
Total length of skull	(263)	243	210	(231)	201
Condylbasal length of skull	—	227	202	—	197,5
Basal length of skull	(224)	221	186,5	(190)	182
Zygomatic breadth	(169)	158	140	(163)	120
Height of crown from palale	(92)	80	78,5	(76)	75
Mesial length of nasals	(41)	39	37	(33)	34
Combined breadth of nasals anteriorly	(27,5)	25	23,5	(28,5)	21
Breadth of basioccipital	(45)	40	35	(37,5)	31
Interorbital breadth	(65)	58	56	(60)	48
Least postorbital breadth	(59)	53	55,5	(58)	50
Palate length from henselion	(118)	108,7	97	(97)	97
» breadth between \underline{m}^1	(40)	38,5	36,3	(41)	29
\underline{P}^4 length	(13)	13,9	13	—	12,3

	<i>T. o. majori</i>	Baeza Bears		<i>T. o. typ. ♂</i>	<i>T. ornatus</i> from Gualea ♀
		♂	♀		
\bar{m}^1 length	(17)	18	17	(16)	16,1
» breadth	(12,8)	14	13,2	(13)	12,5
\bar{m}^2 length	(24,8)	26	25,2	(23)	23
» breadth	(13,5)	14,4	13,6	(13,2)	12,2
\bar{p}_4 length	(9,8)	9,1	9	(7,8)	8
\bar{m}_1 length	(20,5)	20	20	(19)	18,8
\bar{m}_2 »	(19,8)	20	19,3	(18,5)	18
» breadth	(12)	12	11,8	(11)	10,6
\bar{m}_3 length	(14,3)	15	13,5	(13)	13
» breadth	(10)	11,8	10,7	(10)	10

(Figures in brackets quoted from THOMAS).

To facilitate a direct comparison, some measurements of other Bear-skulls from Ecuador are in this table put alongside of the figures expressing the dimensions of the two skulls from Baeza. On the right side are to be seen the measurements of the skull of a female Bear killed $\frac{1}{6}$ 1920 at Gualea, on the western slopes of the Andes, altitude 5000 feet. This Bear has also kindly been presented to this Museum by Consul SÖDERSTRÖM.

On the left side I have taken the liberty of quoting from THOMAS the by him published cranial measurements of his male type specimen of *Tremarctos ornatus majori*, which is said to lead its origin from the province of Azuay, southern Ecuador. Finally there are also the cranial dimensions of an old typical male of *Tremarctos ornatus* from Peru, as recorded by the author just quoted.

A comparison of all these measurements is of considerable interest. The first thing observed is, that the Bear from Baeza has the figures expressing longitudinal dimensions decidedly larger than the corresponding ones of the typical Peruvian Bear. On the other hand the latter has a broader skull with larger zygomatic width and greater interorbital width, but the basioccipital is broader in the Bear from Baeza. Still more important is, however, that the Bear from

Baeza has so very much larger teeth than the Peruvian one. This difference is so great that the two specimens must be regarded as racially different.

The type of *T. o. majori* has all dimensions of the skull itself larger than the corresponding ones of the male Bear from Baeza. It is then the more astonishing to find that the latter has considerably larger teeth, especially in the upper jaw, than the type of *T. o. majori*. That the Baeza Bears really are large-toothed is further proved by comparing the size of the teeth of the female with those of other spectacled Bears. The female Bear from Baeza has considerably larger molars and premolars than the male Peruvian Bear, and its premolars and molars of the upper jaw are as large, or in some cases even larger, than the corresponding ones of the male *T. o. majori*.

The female Bear from Gualea is smaller in all dimensions of its skull, and also with regard to the teeth than the female Bear from Baeza. It may therefore be similar to the typical *T. ornatus*. It is thus quite evident that the Bears inhabiting the western slopes of the Andes at Gualea are quite different from those living on the eastern side of the mountain chain at Baeza. The latter are larger and with larger teeth in this respect resembling or even exceeding *T. o. majori* THOMAS. They are evidently more related to the latter than to the typical *T. ornatus* and considering the variability among the Bears generally, I am inclined to regard the Bears of Baeza as representing the subspecies mentioned. The type locality of *T. o. majori*, the province of Azuay, is situated on the eastern slopes of the Andes as well and it appears probable, that the large and large-toothed race belongs to the eastern slopes, while the smaller *T. ornatus* lives on the western side. The province mentioned comprises chiefly the land around the different rivers, which originating on the mountain-sides finally unite into Rio Santiago, which itself is a tributary to Rio Marañon. Baeza again lies at a considerable distance further north and in a district, which belongs to the river-system of Rio Napo. It is rather natural that the intercourse between the faunas of the different river-systems on the slopes of the Andes is not very lively in consequence of the physical conditions of the country with high and very steep mountains intersected by

very deep valleys and precipitous ravines. It is therefore rather natural that the isolation, which thus is brought about, may result in the development of greater or smaller differences in the characteristics of the animals, and that these differences gradually get so fixed, that it can be spoken about different races. Whether this is the case with the Bears of Baeza compared with those of Azuay, I leave open to question, until more material has been examined, although I suppose that many modern mammalogists would think that the former should be considered as a separate race.

Odocoileus peruvianus consul n. subsp.

A fine female specimen killed $21/11$ 1920 at Guamani on the road to Papallacta, altitude 12000 feet.

CABRERA has pointed out (Bol. Real Socied. Esp. Hist. Nat. 1918), that this deer cannot be counted as a subspecies of *O. virginianus* (in consequence of the wanting metatarsal gland), and by this he objects to the proceeding of LYDEKKER in Cat. of the Ungulate Mam. Brit. Mus. (Vol. IV p. 175). In this opinion I have the pleasure of agreeing with the first quoted author. He will, however, regard the Peruvian form as a subspecies of *O. gymnotis* and, although it is more related to this latter species than to the first mentioned, my opinion is somewhat divergent, as I am inclined to consider it sufficiently different to deserve the rank of a separate species. Both are alike in the absence of the metatarsal gland, but the distinguishing characteristics are numerous, and some of these have also been duly recorded by CABRERA. The ears of *O. gymnotis* are (in accordance with the specific name) »almost naked externally» (LYDEKKER); the pelage is short and yellowish (or reddish) brown. *O. peruvianus* has the ears well clothed with hair; the pelage is long and grizzled grey or greyish brown. The tail of the former is on the upper surface »pale reddish brown» that of the latter »dark brown» etc. In a key for the members of the *gymnotis*-group, as CABRERA has defined it, he divides them into two sub-groups, viz. those with short and reddish pelage, and those with thicker and greyish pelage. Only the latter are of interest in this connection, and they are (at present)

three in number viz. *O. lasiotis* OSGOOD (the name of which stands in direct opposition to *gymnotis*!) from Merida, Venezuela, *O. columbicus* (FITZ.) CABRERA from the Andes of Colombia and *O. peruvianus* GRAY. In the key, alluded to above, CABRERA has used as distinguishing characteristic for the last of these in opposition to the two first ones the rust-red colour («deep rusty red». LYDEKKER) of the tuft of the tarsal gland. There are, however, also several other characteristics, which are shared by *lasiotis* and *columbicus*, in contrast to *peruvianus*. These characteristics are present in the former two races in the shape of a series of dark markings, which are absent in the third or last species. *O. lasiotis* has f. i. a broad blackish eye-ring which in *O. lasiotis* is complete, but in *O. columbicus* at least is well developed in front and below the eye (well visible in CABRERA's figures), but in *O. peruvianus* its place is taken by a broad whitish eye-ring. The two first species have a dark brown line along the upper neck to the shoulders or the middle of the back, while in *O. peruvianus* there is only a very slight and indistinct shade of this behind the occiput. In the two first there are further dark markings above the hoofs, more or less extensively continued up in front of the legs, but in *O. peruvianus* there is no trace of such markings. *O. lasiotis* and *columbicus* are thus evidently much more closely related to each other than to *O. peruvianus*. As the knowledge about this Deer appears to be rather incomplete to judge from the scanty notes in the available literature, the following description of the present specimen may be desirable, or even necessary if, as will be done presently, the question is raised, whether the Deer of the *peruvianus*-type may be different in Peru and in Ecuador.

General colour of the body grey, a little darker and more brownish on the back than on the flanks. The colour is produced by white subterminal rings and dark tips to the hairs. On the middle of the back the length of the hairs is about $4\frac{1}{2}$ to $5\frac{1}{2}$ cm. The concealed parts are smoke grey, the outer parts warm sepia with a subterminal white ring about 2 mm. broad. On the flanks the hairs have the smoke grey colour all way from the base to the subterminal ring, or are only slightly darkened just below the same, and the thin tip is also brown, but often very small or missing,

especially on the lower flanks. The light rings of the hairs are broader on the flanks than on the back, but often somewhat cream-coloured. The upper surface of the tail is »warm sepia» (Rép. de Coul. 305,1), some few of the hairs of the basal portion with creamy rings. The lower side of the tail is pure white. The hairs of the upper surface are about 8 cm., those of the lower side and at the end about 11—12 cm.

The face is warm sepia, inclining to black, thickly sprinkled with white rings from a little above the rhinarium and upwards, but in the posterior portion of the interorbital regions the rings cease, and then follows a broad parietal area, which is uniformly a dark shade of warm sepia. This area is prolonged in a short tip over the nape, but is not continued into any line over the neck. The outside of the ears is grizzled grey, paler at the base behind, the inside with long white hairs. The sides of the head in front of the eyes dark grey with white sprinklings, and the eyes themselves are surrounded by broad whitish rings. A broad band of warm sepia, nearly black, behind the rhinarium from lip to lip. In front of the same and between it and the rhinarium a white spot on the upper lip, and behind the black band on either side a whitish band to the corner of the mouth, but these whitish band do not meet on top of the nose. The chin is white, bordered on either side by a black spot on the lower lip, and in the middle by a smoky grey white-sprinkled band from the sides of the head; behind this the interramial space and the throat are white. The fore neck is smoky grey more or less overlaid with white; the chest and breast resemble to some degree »avellaneous» (RIDGWAY 1912), towards the axillary region with a somewhat buffy tint, and behind blending into the white of the belly. Proximally the limbs are white on their inner side, which distally is continued as a stripe down the posterior side, otherwise the limbs are brownish grey as the body colour, sprinkled with whitish, but without any dark markings, rather paler on the digits than on the metapodials. The tuft of the tarsal gland is very dark brown, most resembling »van Dyke brown» (RIDGWAY 1912), and its surroundings are rusty yellow.

Mesially on the back, about 22 cm. in front of the root of the tail, there is a naked spot measuring about 6 cm. in

length and not quite 2 cm. in breadth at the broadest place, which is in the posterior half. The dry skin is somewhat thicker at this naked spot than in its surroundings. The surface is smooth and there are only a few short hairs originating behind the usual epidermoid scales. There is no cicatrice, or any other indication of a healed wound, nor is there anything else that points to any pathological condition and against this speaks also the symmetrical and well defined shape of this spot. On the other hand, however, there are no pores, nor any other indications to that it should be a glandular area, which might be guessed at. Before anything can be decided concerning this an examination of more and preferably fresh material is needed, but it seemed of interest do draw the attention to this strange-looking spot, so that it might be made out, whether it is only accidental in this specimen, or of normal occurrence.

Finally the following cranial measurements are recorded for comparison with such of two Peruvian specimens.

	From	From Peru	
	Ecuador ♀ ad. mm.	♀ ad. mm.	♀ ad. mm.
Greatest length of skull	259,5	221	217,5
Condylbasal length	247	208	205
Basal length ?	233	194	191,5
Greatest breadth across orbital rings . . .	99	92,3	87,5
Least interorbital breadth	54,2	52	50
Breadth of brain-case	66,8	66	63
Length of nasals mesially	92	69	65
Greatest combined breadth of nasals . . .	27	24,5	26
Palatal length	165,5	137,5	131
Greatest breadth across outside of m^2 . .	70,5	62	63,5
Distance from anterior premolar to tip of premaxillary	84	68	65
Distance from orbit to tip of premaxillary	144	119	115
Distance from for. lacrymale to hind sur- face of occipital condyle	118	105,5	105,5
Length of upper molar series	75	61,8	64,5
Length of lower molar series	78,5	66,3	67,5
$m^1 - m^3$	43	33	37,5
Greatest breadth of m^2	16,8	14,4	14,1

The Peruvian specimens, which have been used for comparison have been collected in Nov. 1904 at Ollachea, Peru about 2000 m. altitude by Dr. NILS HOLMGREN, now Professor at the Stockholm High School. The first of the specimens presents teeth in about the same stage of wearing as the Ecuadorian specimen, the other is somewhat younger, but fully adult and with m^3 somewhat worn. The measurements are thus quite comparable in all cases. They prove thus, that the typical *O. peruvianus* GRAY is very much smaller than its representative in the Andes of Ecuador. The difference is especially striking with regard to the longitudinal dimensions, while those expressing the breadth are not so much different. The teeth of the Ecuadorian Deer are also larger than those of the Peruvian one. The difference in size of these skulls is so great, that the two Deer must be regarded to represent different races. The general shape of the skulls is otherwise rather similar, as it ought to be. The forehead is keeled along the frontal suture, as already GRAY has remarked, but this feature is perhaps a little more pronounced in the smaller Peruvian animal. With regard to the teeth it may be remarked that the profile line of the upper molar series is much more strongly curved in the smaller race than in the larger one, which no doubt stands in correlation to the shortening of the skull, because by means of this curving the grinding surface is less shortened, than if the profile line had been straight. The accessory columns of the molars as well of the maxillary as of the mandible are much better developed in the smaller than in the larger race, in which they partly are missing.

The length of head and body of the Ecuadorian race is about 150 cm. to judge from the dry skin. The tail (dry) without hairs is about $12\frac{1}{2}$ cm. The length of the hind foot is (approximately) $38\frac{1}{2}$ cm. This appears to be about ten centimetres longer than the corresponding dimensions of the typical Peruvian race.

The typical locality of *Odocoileus peruvianus* GRAY is Peru, and I consider myself therefore entitled to regard the specimens from Ollachea as representatives of the typical race. The deer from Ecuador must therefore have a subspecific name, which I propose to be *O. p. consul*.

It is of a considerable interest to have stated, that in this case as well the Peruvian animal is smaller than its nearest relatives, because there are several analogies to this. Among the Deer we find, that *Hippocamelus antisensis* d'ORB. of Peru is smaller than *H. bisulcus* MOLINA of Chile. In a similar way *Lama huanachus cacsilensis* LÖNNB. and *L. vicugna mensalis* THOMAS, both from Peru, are smaller than the typical races from the Chilean Cordillera. As all these animals live at rather high altitudes, the explanation may be, that the »Paramo» of Peru is more barren than the same of the countries as well to the south as to the north. The scantiness of the vegetation must, of course, in the first rank influence the larger mammals, which are feeding on vegetable matter, but it might also have some effect on other animals as well.

It has been stated above that the *Pseudalopex*, which inhabits the highlands of Peru, although nearly related to the one of the Paramo of Ecuador is decidedly smaller and similar is also the case with the members of the genus *Conepatus*. The biological conditions appear thus to be so much less favourable on the highlands of Peru, that they also affect the carnivorous mammals. It might therefore prove to be a general rule, that the members of the Peruvian fauna are smaller than the corresponding ones as well in Ecuador as in Chile.

Bradypus sp. of the infuscatus-group.

A specimen collected near river Napo $\frac{6}{3}$ 1921 at an altitude of 2500 f. is unfortunately incomplete, because the Indian carrier lost the skull on the road.

Choloepus napensis n.

1 specimen (supposed to be a male) » $\frac{10}{1}$ 1921, along river Napo, altitude 2000 f.»

Upper parts of the head above the naked face and above a line above the eyes and towards the lower temples pale buffish, very similar to RIDGWAY's warm buff (1912), or the palest shade of »yellowish buff» of OBERTHÜR (Rép. de Coul. 310,1). The shorter, adpressed hairs along the anterior and

lateral borders of this area have the same colour to their roots, the longest hairs on the occiput are more greyish brown at their roots. The long hairs on the dorsal side of the neck are about 15 cm. long gradually decreasing to about 12—11 cm. above the shoulders. They are dull rust red at their extreme basal parts, then follows along more or less a third of the hair a buffy whitish zone, and after that a broad zone of »warm sepia» (Rép. de coul. 305,1), and finally the 2—3 cm. long light tip, which is dirty whitish. On the middle of the back the hairs are only 8—9 cm., the rusty coloured basal zone is broader and brighter, but the sepia-coloured zone is missing, or only represented by a dull brownish shade, which is a little more pronounced on the sacral region, where the hairs also increase in length. On the flanks the hairs have a length of about 11 cm. Their extreme bases are not so bright, but rather similar to a pale shade of fawn (Rép. de Coul. 308,1), and the dark zone is »burnt umber» (l. c. 304) of various shades, sometimes also similar to RIDGWAY'S »verona brown»; towards the shoulders it darkens to »warm sepia» as on the neck, and at the same time the extreme basal parts also become rusty. On the hind legs the dark portion of the hairs is also »warm sepia», but the basal light portion diminishes very much, while on the other hand the light tips get longer, often 5 cm. The inside of the hind legs, and the inside and front side of the fore legs are almost black, also on the outer side of the latter the light tips are not long except on the posterior fringe, so that there as well as on the toes the warm sepia is dominating. The hairs of the fringe are 11 cm. on the upper arm gradually decreasing to 9 cm. at the carpus. The cheeks and the throat are dark brown, rather similar to RIDGWAY'S »verona brown», sharply defined from the pale colour of the upper parts of the head. On the lower throat, fore neck and chest the hairs gradually become warm sepia with buffish white tips. On the belly the length of the hairs is about 2 cm., and the light tips are long enough to cover the there »burnt umber» brown basal parts. The claws are bluish grey horn colour with black tips. When the living animal is hanging down from the lower side of a branch the dorsal parts exposed to view may look dirty buffish, the sides a rather pale shade

of burnt umber and the fore limbs blackish with a pale posterior fringe.

The length of the dry skin from snout to vent is about 60 cm., but the living animal is probably considerably larger.

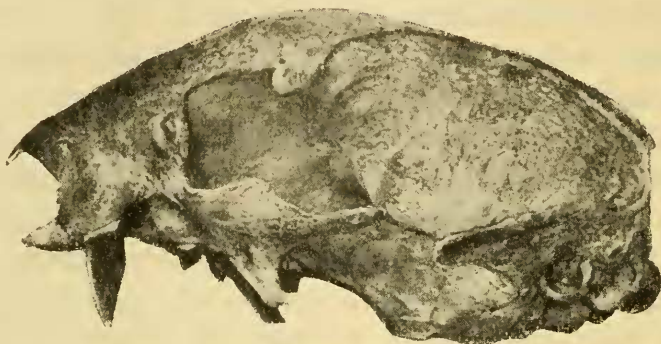


Fig. 1. Skull of *Choloepus napensis*, lateral view.

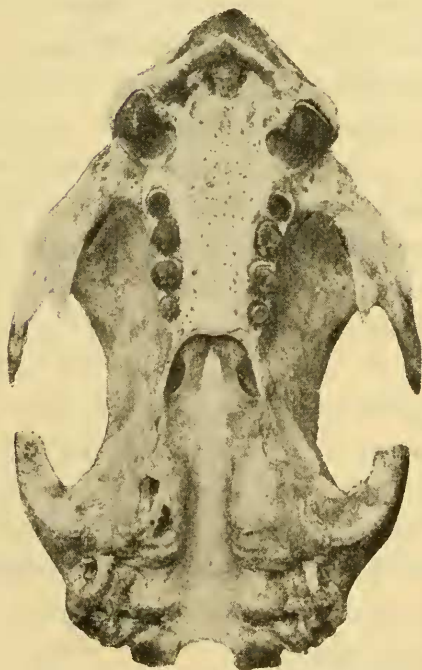


Fig. 2. Skull of *Choloepus napensis*, seen from below.

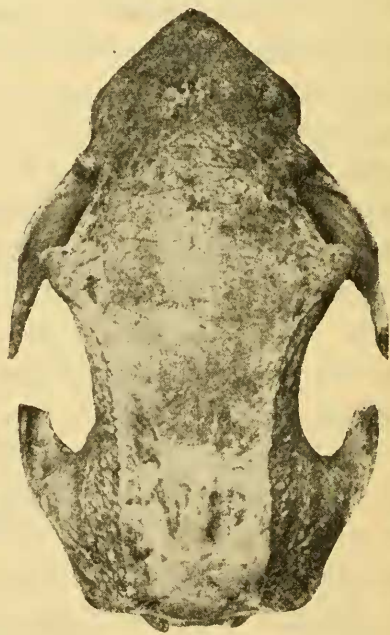


Fig. 3. Skull of *Choloepus napensis*, seen from above.

The longest claw of the hands is measured in a straight line 55, and the longest hind claw 47 mm. The dimensions of the skull are recorded below.

The colour-pattern described above is not similar to that of any other *Choloepus*. The fur is coarser than that of

Ch. hoffmanni from Central America and *Ch. didactylus* (material from Venezuela).

With regard to the size of the animal the *Choloepus* from Napo may be regarded as one of the largest forms, and probably about equal to *Ch. florenciae* ALLEN in this respect.

For the comparison of the skull with that of other species the by J. A. ALLEN published photographic reproductions¹ of the skulls of the six recognised forms of *Choloepus* are very useful. If these figures are examined, it is easily seen, that with regard to their general shape they can be divided into two groups. In one of these, which is constituted by *Ch. florenciae* and *Ch. andinus* (both described by ALLEN), the skull is rather longish, so that the breadth across the postorbital processes is contained about twice in the occipitonasal length of the skull. In the remaining group the said breadth is considerably more than half the occipitonasal length. The Sloth from Napo belongs, as the below recorded measurements prove, to the group with longish skulls. It has most resemblance with *Ch. florenciae* and many of the dimensions recorded by ALLEN for this species are very similar to those of the present specimen. The condylobasal length of both is the same, but all dimensions expressing breadth are larger in the animal from Napo especially zygomatic, interorbital breadth-indexes and the breadth of the snout; the palate is longer; but the diastema shorter; the coronoid considerably higher and so on. A comparison with ALLEN's figure of the skull of *Ch. florenciae* reveals several other important differences. The rostrum of the latter is not only narrower across the canines, but also slenderer in other respects than is the case in the *Ch. napensis*. Thus the shortest distance between *for. lacrymale* and the margin of the nasal opening is in the latter less, but in the former more than the height of the rostrum on a level with the canines. *Squama occipitalis* is in *Ch. napensis* practically quite vertical, but in *Ch. florenciae* rather strongly sloping. The posterior margin of the bony palate is in *Ch. napensis* almost square only little rounded at the sides and situated well behind the molars, while the same in *Ch. florenciae* shows a deep angle, which reaches with its point forward to

¹ Bull. Amer. Mus., Vol. XXXII. 1913.

the level of the posterior molars. The *jugale* has also a quite different shape in the two animals. In *Ch. florenciae* the posterior end of the bone does not extend so far backwards even as the inferior process of the bone, but in *Ch. napensis* it extends much further back, and it is separated from the anterior end of *processus zygomaticus* of the *squamosum* only by a space of about 9 mm. With regard to the shape of the zygomatic arch the present specimen shows more likeness with *Ch. andinus*, but the latter has also a sloping *squama occipitalis* and smaller breadth-dimensions. ALLEN's figures indicate on the other hand that with regard to the development of the *musculi temporales* and the by them effected markings on the skull there is a great difference between the present species and *Ch. andinus*. In the latter these muscles extend much higher up on the skull posteriorly so that *cristae sagittales externae* nearly meet behind. The area of the parietal and frontal bones between the *cr. frontales externae* and *cr. sagittales externae* has the shape of a long rather narrow triangle with its apex behind at *crista occipitalis* while in *Ch. napensis* the same area forms a rectangle of almost equal breadth (25 mm.) all over the parietal region and part of the frontal only widening somewhat behind the postorbital processes. As the type-specimen of *Ch. napensis* is old this difference appears to be quite important. In this respect there seems to be more resemblance with *Ch. florenciae*.

The comparison does not need to be carried any further to prove that the *Choloepus* from the Napo-valley is quite distinct. The accompanying figures of the skull may also illustrate this.

Dimensions of the skull of *Choloepus napensis* ad.:

Occipitonasal length	117 mm.
Condylobasal »	115 »
Zygomatic breadth	72,5 »
Interorbital »	34,5 »
Breadth across postorbital processes . .	49 »
Least postorbital breadth	37,5 »
Mastoid breadth	49,8 »
Palatal length	53,3 »

Diastema	9,3 mm.
Upper tooth row	23 »
Breadth of rostrum at base of canines .	40,5 »
Length of lower jaw	89,5 »
Height at condyle	25,3 »
» » coronoid	39 »



Tryckt den 18 mars 1922.